How Does the Actual World Change in Perfection?

——From a Biological Point of View in Leibniz——

Masahiko TERASHIMA

Introduction

According to G. W. Leibniz (1646–1716)[1], the actual world is the most perfect world, in other words, "the best world" of all the possible worlds. If we paraphrase this from the perspective of God, God considers infinite possible worlds which are different in perfection, chooses the most perfect world, and then creates it as the actual world. It is well known that Leibniz had this view.

Leibniz states, as we show later in detail, that the actual world changes in perfection in accordance with the passage of time although he reserves conclusive judgement on this matter[2]. Rutherford and Rateau have already examined this point, focusing on "substance" or "harmony."[3]

This previous research, however, has not dealt with the "creature" when examining the change of the actual world in perfection. In other words, it has lacked a viewpoint on "living beings," which are composed of body and mind differing in perfection, and furthermore, on "biological species[4]." Therefore, the aim of this paper is to make up for what previous research has missed about the change of the actual world in perfection. What this paper shows, however, is just one element in the change of the actual world in perfection. Consequently, if we grasp the change in perfection as a whole, we need to take the substance, or harmony, and other related concepts into account.

In Section 1, we will outline Leibniz's statement concerning the change of the world in perfection. In Section 2, we will then consider the change of the creature in perfection and its relationship to the change of the world in perfection. In Section 3, we will examine the change of biological species and its connection to the change of the world in perfection.

1. Character of the actual world

The world is a collection of "the chain of states" or "the series of things," for Leibniz.[5] In

other words, when Leibniz describes the world, he does not think of it as existing in absolute space or time but as a collection of states or things. God considers a possible world which constitutes an infinite chain of states and infinite series of things, and also conceives of infinite possible worlds within His intelligence. Only one world, in all these possible worlds, can be transferred to the actual world.

(1) Process to determine the actual world

How does one of the possible worlds transfer to the actual world? God determines the actual world by means of power, wisdom(or understanding), and goodness(or will). God compares, first of all, infinite possible things and then infinite possible worlds which are composed of possible things by means of wisdom. He chooses one of the possible worlds by means of goodness. He transfers, in the end, the world he chooses to the actual world by means of his power.(6)

The remarkable point, in this determination process of the actual world, is the criterion used when God chooses the world out of an infinitely many possible other worlds. According to Leibniz, "there must be a sufficient reason for God's choice, a reason which determines Him towards one thing rather than another"(7) because "a mere will without any motive is a fiction not only contrary to God's perfection, but also chimerical and contradictory".(8) The reason or criterion of determination is the degree of perfection the various possible worlds contain. Leibniz describes it like this:

> And this reason can only be found in fitness, or in the degree of perfection that these worlds contain, each possible world having the right to claim existence in proportion to the perfection it contains.(9)

When we read this passage about God's creation, we might query why God would consider possible worlds in spite of His perfect intelligence. That is, we might ask why God could not just consider only the most perfect world. This thought, however, does not fit Leibniz's God, for it is contrary to God's free choice. If God does not have room to choose other worlds, then he does so based on "absolute necessity" and without spontaneity. God is swayed by the reason of goodness, but without necessity. Accordingly, "when God (for instance) chooses the best; what he does not choose, and is inferior in perfection, is nevertheless possible."(10)

The actual world is thus determined in this way to certainly be the most perfect world in

other possible worlds. As we suggested in the introduction, however, the perfection of the most perfect world can be changeable as time passes. We examine this in the following section.

(2) Change of the actual world in perfection

Leibniz states that the increase (or lack of decrease) of perfection in the world is as follows:

> Tis true that every particular machine of nature, is, in some measure, liable to be disordered; but not the whole universe, which cannot diminish in perfection.(11)

> If it is the nature of things in the whole, to grow uniformly in perfection; the universe of creatures must have had a beginning.(12)

There are two remarkable points about these passages. Firstly, Leibniz compares particular machines of nature with the whole universe, and maintains that the former are liable to be disordered, namely likely decreasing in perfection, with the latter unlikely to diminish in perfection. Secondly, the way to increase the perfection of the world is expressed as "grow[ing] uniformly," albeit conditionally. This expression shows that perfection may now not decrease and may instead increase, i.e., it will grow uniformly, and moreover, now not grow suddenly and subtly such as a curved line, but uniformly as represented by a straight line.

We can provisionally confirm here that the perfection of the world grows as a whole, but Leibniz nonetheless does not reveal concrete detail about the manner of the increase in perfection. Since Leibniz thinks, as shown above, that the world is composed of a series of things. If the series of things as a whole increases in perfection, it seems that the perfection of the world must also grow. In the following sections we will examine this process from a biological point of view.

2. Change of individual creatures

In this section we briefly analyze what a creature is according to Leibniz, before examining the perfection of it. Their features are as follows: Firstly, Leibniz maintains that all living beings are composed of body and mind.(13) He affirms that plants, animals, and even humans, work mechanically as far as the body goes. These living beings, however, are not regarded as mere machines, as Descartes thought.(14) Animals, as well as humans, and even plants, have a monad or soul.(15) Secondly, Leibniz repeatedly claims that for all creatures there will not only

be no generation, there will also be no complete destruction, nor any death.[16] This is because "monads can only begin or end all at once, that is, they can only begin by creation and end by annihilation"[17] and living bodies, which are, in other words, natural machines, "are still machine in their least parts, to infinity".[18]

(1) Correspondence of perfection between mind and body

Leibniz thinks that the perfection of mind corresponds to that of the body in the following way:

> As for Spirits: since I hold that every created intelligence has an organic body, whose level of perfection corresponds to that of the intelligence or mind which occupies the body by virtue of the pre-established harmony, I hold that very useful way to get some conception of the perfection of Spirits above ourselves is to think of perfections of bodily organs which surpass our own.[19]

Although correspondence is restricted to Spirits in this passage, we can confirm that the perfection of mind corresponds generally to that of the body.[20] That is, a low level of the mind in perfection corresponds to that of the body, while the high level of the mind in perfection corresponds to that of the body, as well. Does the perfection of mind and body always maintain the same level of perfection? As seen, there is neither generation nor death in creatures; rather, their state changes while their perfection also changes. Leibniz states that if an organic body is destroyed in a level of that we cannot know by our own senses, the function of mind will also decrease, but as time passes, the organic body and mind will develop to the level of that which can be known by our senses.[21]

(2) Relation between change of living beings in perfection and change of the world in perfection

As we have seen in Chapter 1, the perfection of the world grows uniformly. This is why we would expect that the perfection of individual creatures will also increase. However, Leibniz does not think so. He states this in a correspondence to Clarke as follows:

> The imperfection of our machines, which is the reason why they want to be mended, proceeds from this very thing, that they do not sufficiently depend upon the workman. And

> therefore the dependence of nature upon God, far from being the cause of such an imperfection in nature, because it depends so much upon an artist, who is too perfect to make a work that wants to be mended. Tis true that every particular machine of nature, is, in some measure, liable to be disordered; but not the whole universe, which cannot diminish in perfection.(22)

Leibniz here compares machines made by us with those made by God, and then claims that the reason there is an imperfection in our machines depends upon humans, and the reason there is no imperfection in machines made by God depends upon God. He also mentions that it is true that every particular machine of nature is liable to be disordered. Consequently, if we interpret "disorder" as a decrease in perfection, the perfection of every particular machine of nature does not necessarily grow, even when the perfection of the world increases or stays the same. However, Leibniz's fifth letter to Clarke appears to contradict the above passage:

> I maintained, that the dependence of the machine of the world upon its divine author, is rather a reason why there can be such imperfection in it: and that the work of God does not want to be set right again; that it is not liable to be disordered; and lastly, that it cannot lessen in perfection.(23)

Although Leibniz claims that "Tis true that every particular machine of nature, is, in some measure, liable to be disordered" in the fourth letter to Clarke, he maintains that the work of God is *not* liable to be disordered, in his fifth letter. These assertions may certainly be contradictory, but we need to distinguish the subject carefully. In the fourth letter, Leibniz says what is liable to be disordered is "every particular machine," and in the fifth letter, what is not liable to be disordered is "the work of God," i.e., "the machine of the world." If we want to interpret Leibniz's thought coherently, the work of God must be the whole particular machine, namely the machine of the world. Through interpreting Leibniz like this, we can understand what Leibniz considers here; namely that the perfection of particular living beings sometimes decreases, but that the perfection of the whole living being and the perfection of the world does not decrease.

It is impossible to determine unequivocally what Leibniz imagines when the perfection of the world grows, because the notion of "perfection" has many definitions regarding its variety, order, quantity of essence, and harmony.(24) Considering that we have confirmed the perfection

of living beings, however, we can conclude that the perfection of particular living beings changes continually and some creatures diminish in perfection while other creatures increase in perfection, and consequently, the perfection of the world, that is, the perfection of the whole creature grows.

In this chapter, we have examined the perfection of living beings and their relation to the perfection of the world. In addition to this, it is possible to focus on the perspectives of biological species. We will consider, in the next chapter, the change of biological species and their relation to the change of perfection in the world.

3. Change of biological species

We confirm what a biological species is, for Leibniz, first. He discusses this intensively in *New essays on human understanding*, and distinguishes "physical species" from "mathematical species." On the one hand, if there is even a little difference among two objects, they count as different species as regards mathematical species. On the other hand, even if there is a little difference among two objects, they are regarded as the same species as a physical species. As biological species are subdivisions of physical species, if there is little difference among particular living beings, they are still regarded as the same species.(25) Concerning human beings, for example, Leibniz regards Blacks, Chinese, and American Indians as the same species, even though their appearance differs.(26)

(1) Change of biological species and perfection

How do biological species change, and in such case how does the overall perfection change? It is complicated to understand Leibniz's thought about species' change, for it seems that his description of it is inconsistent. This is likely because he thinks that "our determinations of physical species are provisional, and are adapted to what we know,"(27) that is, that knowledge about physical species and biological species depends on searching, and is revised gradually.

Leibniz shows, for example, that an animal becomes another kind (or species) by conception in *Monadologie*.

> through conception this animal was merely prepared for a great transformation, in order to become an animal of another kind.(28)

Moreover, he states in the next passage that spremtic animals "are raised by conception to the level of the larger animal" or "a larger stage".[29] Considering what we have confirmed, a change of biological species by conception corresponds to a change of perfection of particular living beings, and, in particular, an increase in perfection; because it is possible to interpret "the larger animal" or "a larger stage" as spermatic animals becoming a higher level of body and mind.

In contrast, Leibniz asserts, in *New Essays,* that "generation or pedigree does at least create a strong presumption (i.e., a provisional proof)," when determining species.[30] In other words, the species changes by conception, while species are determined by generation or pedigree. If we try to understand coherently what Leibniz maintains, conception must be distinguished from generation. The former is a change of biological species at the micro level, for example spermatic animals becoming human beings, and the latter determining that, for example, a dog is generated from canine parents at the macro level. Does Leibniz only state that species' change exists at the micro level, and not at the macro level? This is not true. To clarify this statement, Leibniz claims species' change of cats, for example, as follows:

> Perhaps at some time or some place in the universe there are or were or will be species of animals more subject to change than those we have here now. Various cat-like animals, such as the lion, the tiger and the lynx, may once have been of the same race and may now amount to new subdivision of the ancient cat species. Thus I keep returning to what I have already said several times: that our determinations of physical species are provisional, and are adapted to what we know.[31]

We can regard this passage as a statement concerning species' change. Furthermore, Leibniz maintains species' change of the human being and of its perfection in *Theodicy*

> And although there be apparently in some places in the universe rational animals more perfect than man, one may say that God was right to create every kind of species, some more perfect than others. It is perhaps not impossible that there be somewhere a species of animals much resembling man and more perfect than we are. It may be even that the human race will attain in time to a greater perfection than that which we can now envisage. Thus the laws of motions do not prevent man from being more perfect: but the place God has assigned to man in space and in time limits the perfections he was able to

receive.[32]

This passage clearly shows that human beings may become a more perfect being. That is, the species of human being may change and the perfection of mind and body of the human being may increase.

(2) Change of biological species and perfection of the world

If we can say that Leibniz considers that species change means a change of perfection of particular living beings, how does the perfection of all species change? That is, how does the perfection of all species increase, decrease, or stay the same? We cannot decide this conclusively, because there is probably no text in which Leibniz directly answers it. We can conclude, however, that all creatures do not necessarily reach higher levels of perfection. This is because there are two foundations to draw from. Firstly, Leibniz does not consider that the perfection of each living being is equal:

> The connexion and order of things brings it about that the body of every animal and of every plant is composed of other animals and of other plants, or of other living and organic beings; consequently there is subordination, and one body, one substance serves the other: thus their perfection cannot be equal.[33]

Even in the same species, the perfection of each living being is basically different from each other, and moreover, in different species, perfection cannot be equal among them.

Secondly, Leibniz often regards the characteristic of perfection as variety; in this case if all living beings become the same species, the perfection of the world does not increase because of the loss of variety in the world. On this, Leibniz says the following:

> It turns out that if there were only virtue, if there were only rational creatures, there would be less good.[34]

> Midas proved to be less rich when he had only gold. And besides, wisdom must vary. To multiply one and the same thing only would be superfluity, and poverty too. To have a thousand well-bound Vergils in one's library, always to sing the airs from the opera of Cadmus and Hermione, to break all the china in order only to have cups would one call that

reason? Nature had need of animals, plants, inanimate bodies; there are in these creatures, devoid of reason, marvels which serve for exercise of the reason.(35)

If we regard perfection as variety, the change of biological species and its perfection means that the variety of biological species is always increasing, in line with the growing perfection of the world.

Conclusion

To sum up, we have firstly confirmed the existence of a change of perfection in the actual world. Secondly, focusing on one of the elements of perfection in the actual world, that is, the perfection of particular living beings, we have examined how it changes. Finally, focusing on biological species, we have considered the relationship between species' change and the perfection of the world. Consequently, we have showed that the perfection of living beings connects deeply to the perfection of the world, though it is pure supposition, since the change of perfection in the actual world is composed of many elements, for Leibniz, and perfection has many connotations.

The essence of this paper lies in its focus on a biological point of view: this focus reveals the notion of the actual world considered exclusively from a metaphysical point of view.(36)

Notes

（1） The following abbreviations of primary texts are used throughout: A = *Gottfried Wilhelm Leibniz: Sämtliche Schriften und Briefe*. Edited by Deutsche Akademie der Wissenschaften. Darmstadt and Leibzig: Akademie Verlag, 1923-present ; GP = *Die philosophischen Schriften von G. W. Leibniz*. Edited by C. I. Gerhardt. 7vols. Berlin: Weidmannsche Buchhandlung, 1875-90; LW = *Briefwechsel zwischen Leibniz und Christian Wollf aus den Handschriften der koeniglichen Bibliothek zu Hannover*. Edited by C. I. Gerhardt. Halle: H. W. Schmidt, 1860; AG = *G. W. Leibniz: Philosophical Essays*. Edited and translated by Roger Ariew and Daniel Garber. Indianapolis: Hackett Publishers, 1989; LC = *The Leibniz- Clarke Correspondence: With extracts from Newton's 'Principia' and 'Optiks'*. Translated. by H. G. Alexander. Manchester: Manchester University Press, 1956; Mo = *The Principles of Philosophy, or, the Monadology*, included in AG, pp. 213-225; NE = *New Essays on Human Understanding*. Translated by Peter Remnant and Jonathan Bennett. Cambridge: Cambridge University Press, 1996; Th = *Theodicy: Essays on the Goodness of God, the Freedom of Man and the Origin of Evil*. Translated by E. M. Huggard. La Sall: Open Court, 1985.

（2） See Paul Rateau, *Leibniz et le meilleur des mondes possibles* (Paris: Classiques Garnier, 2015), 103.

（3） See Ibid, 143-174. Donald Rutherford, *Leibniz and the Rational Order of Nature* (Cambridge: Cambridge University Press, 1995), 22-45.

（4） Strictly speaking, Leibniz does not state the "biological species," but states "the species of plants and animals"(A VI, 6, 309/ NE. 3. 6. 13). In order to use a simple expression, we use "biological species" in this

essay.

(5) GP VII, 303/ AG, p. 150. See the following passage as well: "When I speak of this wolrd, I mean the whole universe of material and immaterial creatures taken together, from the beginning of things." GP VII, 406/ LC, p. 77.

(6) See GP VI, 106-7/ Th § 7-8, pp. 127-8; GP VI, 115-116/ Th § 22, pp. 136-7; GP VI, 616/ Mo § 55, p. 220.

(7) GP VI, 616/ Mo § 53, p. 220.

(8) GP VII, 371-372/ LC, p. 36.

(9) GP VI, 616/ Mo § 54, p. 220.

(10) GP VII, 390/ LC, p. 57.

(11) GP VII, 376/ LC, p. 42.

(12) GP VII, 408/ LC, p. 80.

(13) See GP VI, 617-8/ Mo § 63, p. 221.

(14) For a difference between Leibniz and Descartes(or Cartesian) in terms of machines, See Justin E. H. Smith. *Divine Machines* (Princeton: Princeton University Press, 2011), 19, 63.

(15) See GP VI, 619/ Mo § 70, p. 222.

(16) See GP IV, 480-1; GP VI, 601; GP VI, 620/ Mo § 76, p. 223.

(17) GP VI, 607/ Mo § 6, p. 213. See GP VI, 598.

(18) GP VI, 618/Mo § 64, p. 221.

(19) A VI, 6, 307/ NE. 3. 6. 13.

(20) See GP VII, 330.

(21) Ibid.

(22) GP VII, 376/ LC, p. 42.

(23) GP VII, 414/ LC, p. 89.

(24) See A II, 1, 507; GP VI, 616/ Mo § 58, AG, p. 220; LW, p. 172. For a definition of perfection, see Brown, C. Stuart and Fox J. N.(eds.). *Historical Dictionary of Leibniz's Philosophy* (Lanham: Scarecrow Press, 2006), 178-9; Blumenfeld David. "Perfection and happiness in the best possible world," in *The Cambridge Companion to Leibniz,* ed. Nicholas Jolley (Cambridge: Cambridge University Press, 1995) ; Gregory Brown. "Compossibility, Harmony, and Perfection in Leibniz," in *The Philosophical Review* 96, no.2(1987):173-203.

(25) For a distinction between species in Leibniz, see Justin E. H. Smith. *Divine Machines* (Princeton: Princeton University Press, 2011), 246-248.

(26) A VI, 6, 326/ NE. 3.6. 38.

(27) A VI, 6, 317/ NE. 3. 6. 23.

(28) GP VI, 619-20/ Mo § 74, p. 222.

(29) GP VI, 620/ Mo § 75, p. 223. See GP VI, 601.

(30) A VI, 6, 315/ NE. 3.6. 23.

(31) A VI, 6, 317/ NE. 3. 6. 23.

(32) GP VI, 317/ Th § 341, p. 330.

(33) GP VI, 235/ Th § 200, p. 252. For the "Great chain of being" in Leibniz, particularly in *New Essays,* see François Duchesneau. "Essence nominals, principe de continuité et chaîne des êtres, de Locke à Leibniz," in *Locke et Leibniz: deux styles de rationarité*, ed. Martine Gaudemar and Philippe Halou (Paris: VRIN, 2010), 61-77.

(34) GP VI, 179/ Th § 124, p. 198.

(35) Ibid.

(36) This work was supported by JSPS KAKENHI Grant Number JP 16J03217.

References

Brown, Gregory. "Compossibility, Harmony, and Perfection in Leibniz." In *The Philosophical Review* 96, no.2(1987), 173-203.

David, Blumenfeld. "Perfection and happiness in the best possible world." In *The Cambridge Companion to Leibniz,* edited by Nicholas Jolley, 382-410. Cambridge: Cambridge University Press, 1995.

Duchesneau, François. "Essence nominals, principe de continuité et chaîne des êtres, de Locke à Leibniz." In *Locke et Leibniz: deux styles de rationarité*, edited by Gaudemar Martine and Halou Philippe, 61-77. Paris: VRIN, 2010.

Leibniz, Gottfried Wilhelm. *Die philosophischen Schriften von G. W. Leibniz*. Edited by C. I. Gerhardt. 7vols. Berlin: Weidmannsche Buchhandlung, 1875-90.

———. *Gottfried Wilhelm Leibniz: Sämtliche Schriften und Briefe*. Edited by Deutsche Akademie der Wissenschaften. Darmstadt and Leibzig: Akademie Verlag, 1923-present.

———. *The Leibniz- Clarke Correspondence: With extracts from Newton's 'Principia' and 'Optiks'*. Translated. by H. G. Alexander. Manchester: Manchester University Press, 1956.

———. *Theodicy: Essays on the Goodness of God, the Freedom of Man and the Origin of Evil*. Translated by E. M. Huggard. La Sall: Open Court, 1985.

———. *G. W. Leibniz: Philosophical Essays*. Edited and translated by Roger Ariew and Daniel Garber. Indianapolis: Hackett Publishers, 1989.

———. *New Essays on Human Understanding*. Translated by Peter Remnant and Jonathan Bennett. Cambridge: Cambridge University Press, 1996.

Leibniz, Gottfried Wilhelm and Wolff, Christian(1860). *Briefwechsel zwischen Leibniz und Christian Wollf aus den Handschriften der koeniglichen Bibliothek zu Hannover*. Edited by C. I. Gerhardt. Halle: H. W. Schmidt, 1860.

Rateau, Paul. *Leibniz et le meilleur des mondes possibles*. Paris: Classiques Garnier, 2015.

Rutherford, Donald. *Leibniz and the Rational Order of Nature*. Cambridge: Cambridge University Press, 1995.

Smith, Justin E. H. *Divine Machines*. Princeton: Princeton University Press, 2011.

Stuart, C. Brown. and N. J. Fox(eds.). *Historical Dictionary of Leibniz's Philosophy*. Lanham: Scarecrow Press, 2006.